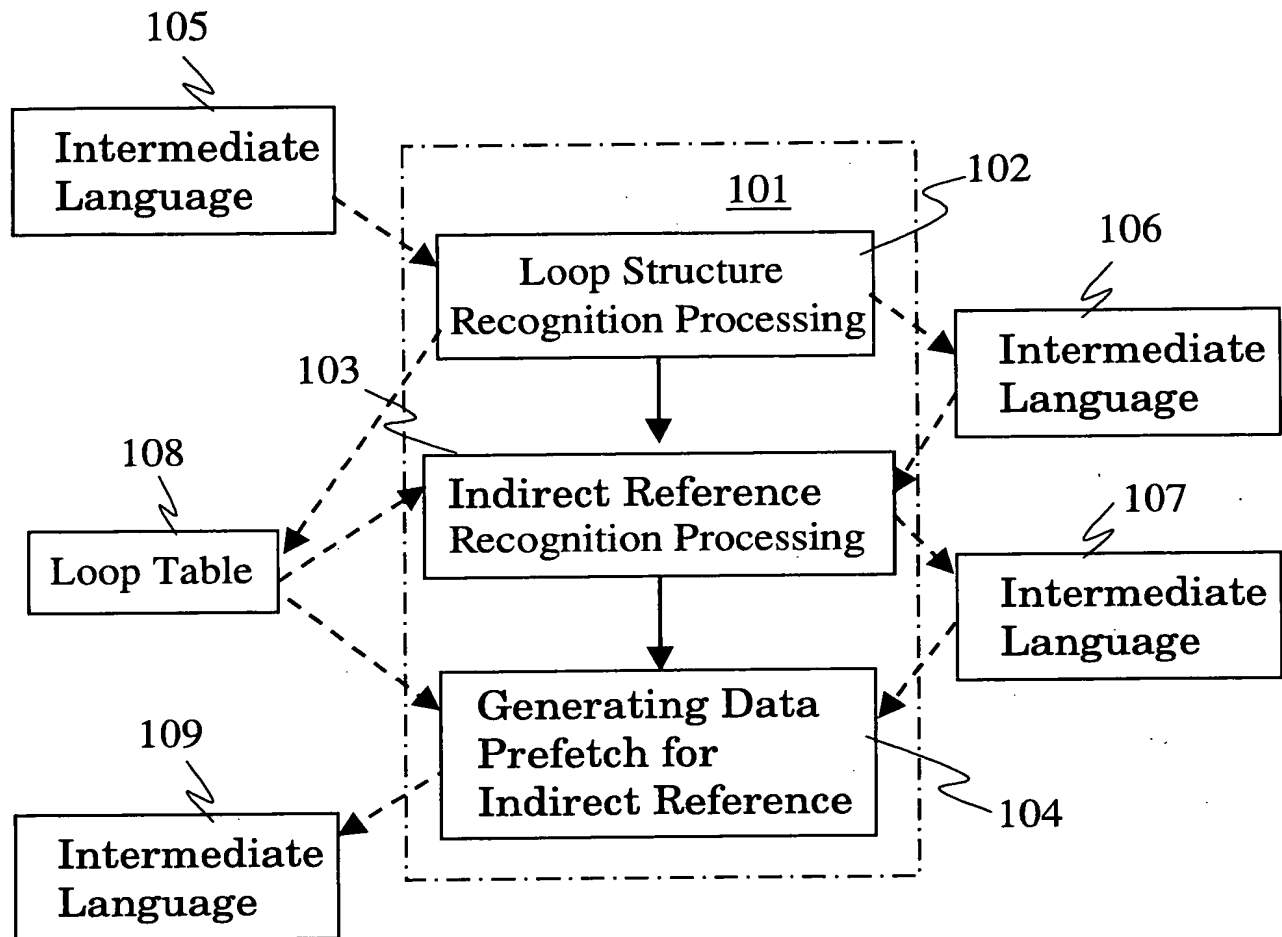


FIG. 1



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FIG. 2

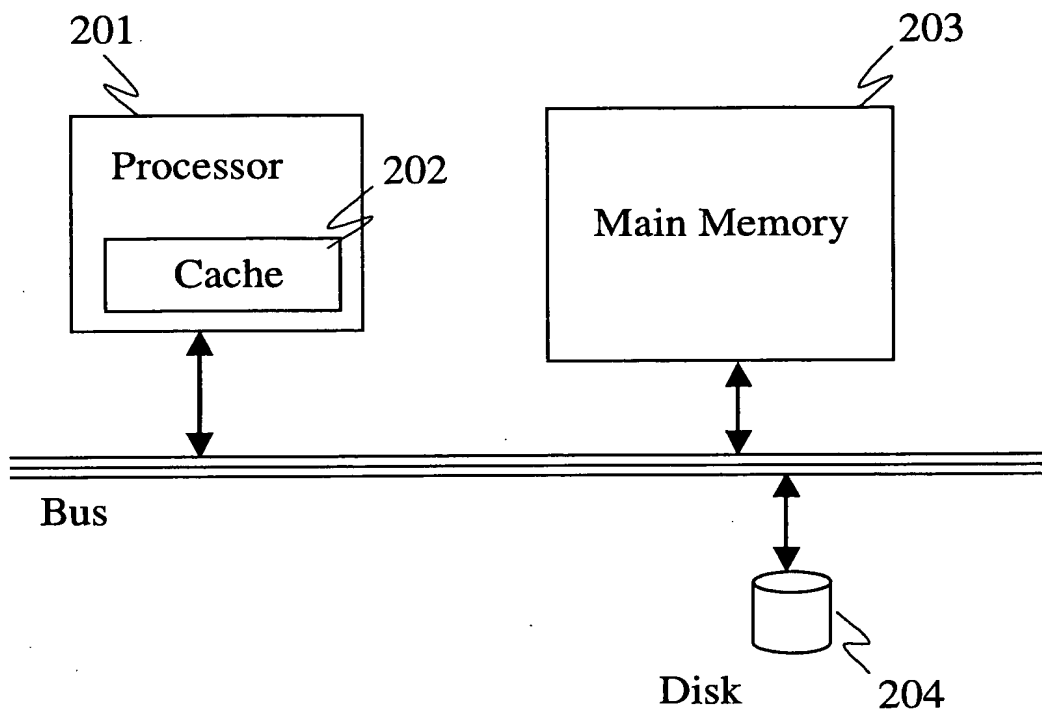


FIG. 3A

```
DO i=1,N
  s=s+A[L[i]]
END DO
```

FIG. 3B

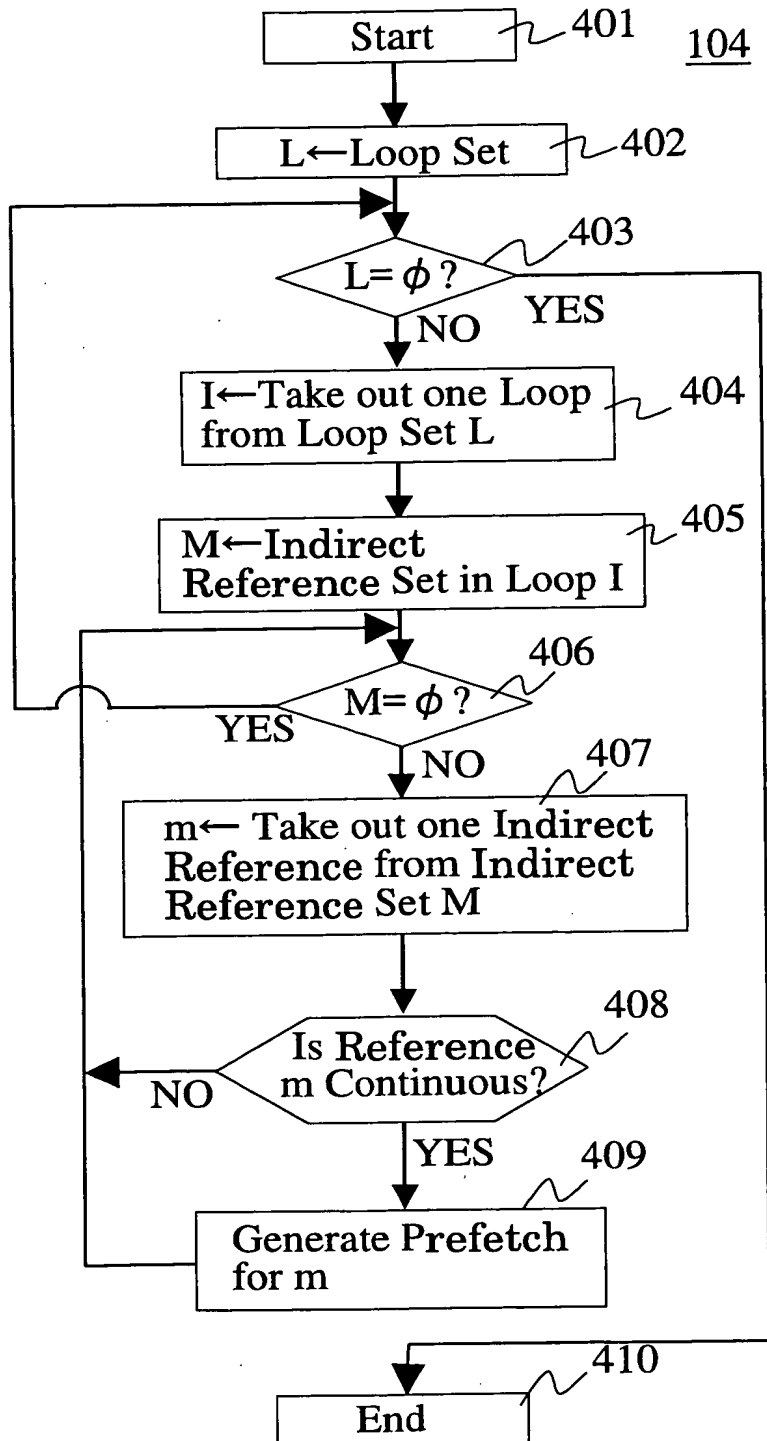
```
DO i=1,N,4
  PREFETCH L[i+ $\alpha$ ]
  s=s+A[L[i]]
  s=s+A[L[i+1]]
  s=s+A[L[i+2]]
  s=s+A[L[i+3]]
END DO
```

FIG. 3C

```
DO i=1,N,4
  PREFETCH L[i+2 $\alpha$ ]
  t0= L[i+ $\alpha$ ]
  PREFETCH A[t0]
  t1= L[i+1+ $\alpha$ ]
  PREFETCH A[t1]
  t2= L[i+2+ $\alpha$ ]
  PREFETCH A[t2]
  t3= L[i+3+ $\alpha$ ]
  PREFETCH A[t3]
  s=s+A[L[i]]
  s=s+A[L[i+1]]
  s=s+A[L[i+2]]
  s=s+A[L[i+3]]
END DO
```

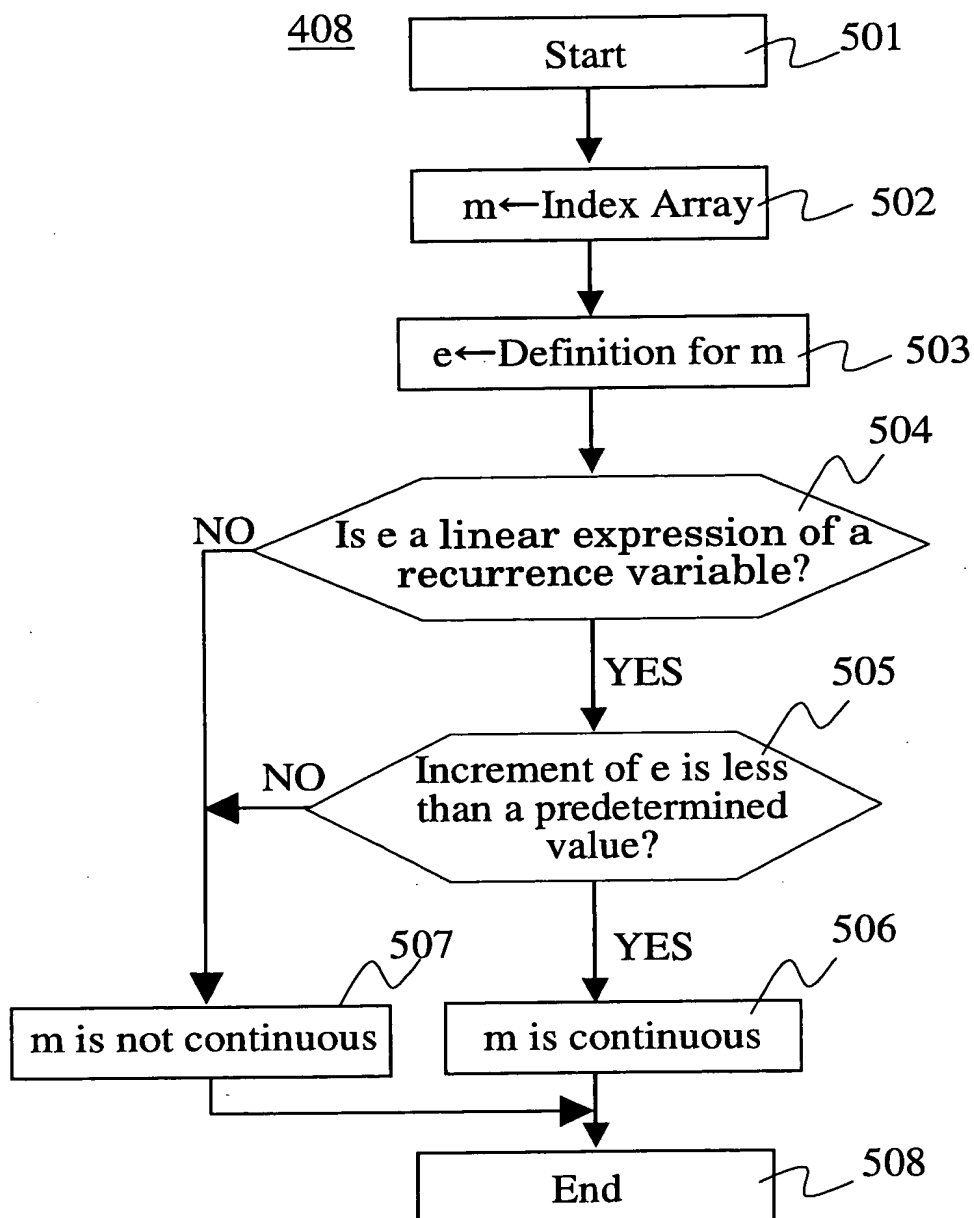
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FIG. 4



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FIG. 5



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FIG. 6

-array_index L=2

FIG. 7

*option increase(L,2)
DO i=1,N
 s=s+A[L[i]]
END DO

FIG. 8

DO i=1,N
 L[i]=i*2
END DO

FIG. 9

DO i=1,N,4
 PREFETCH L[i+ α]
 t0=L[i+ α]
 PREFETCH A[t0]
 s=s+A[L[i]]
 s=s+A[L[i+1]]
 s=s+A[L[i+2]]
 s=s+A[L[i+3]]
END DO

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